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RubberWorld

The technical service magazine for the rubber industry

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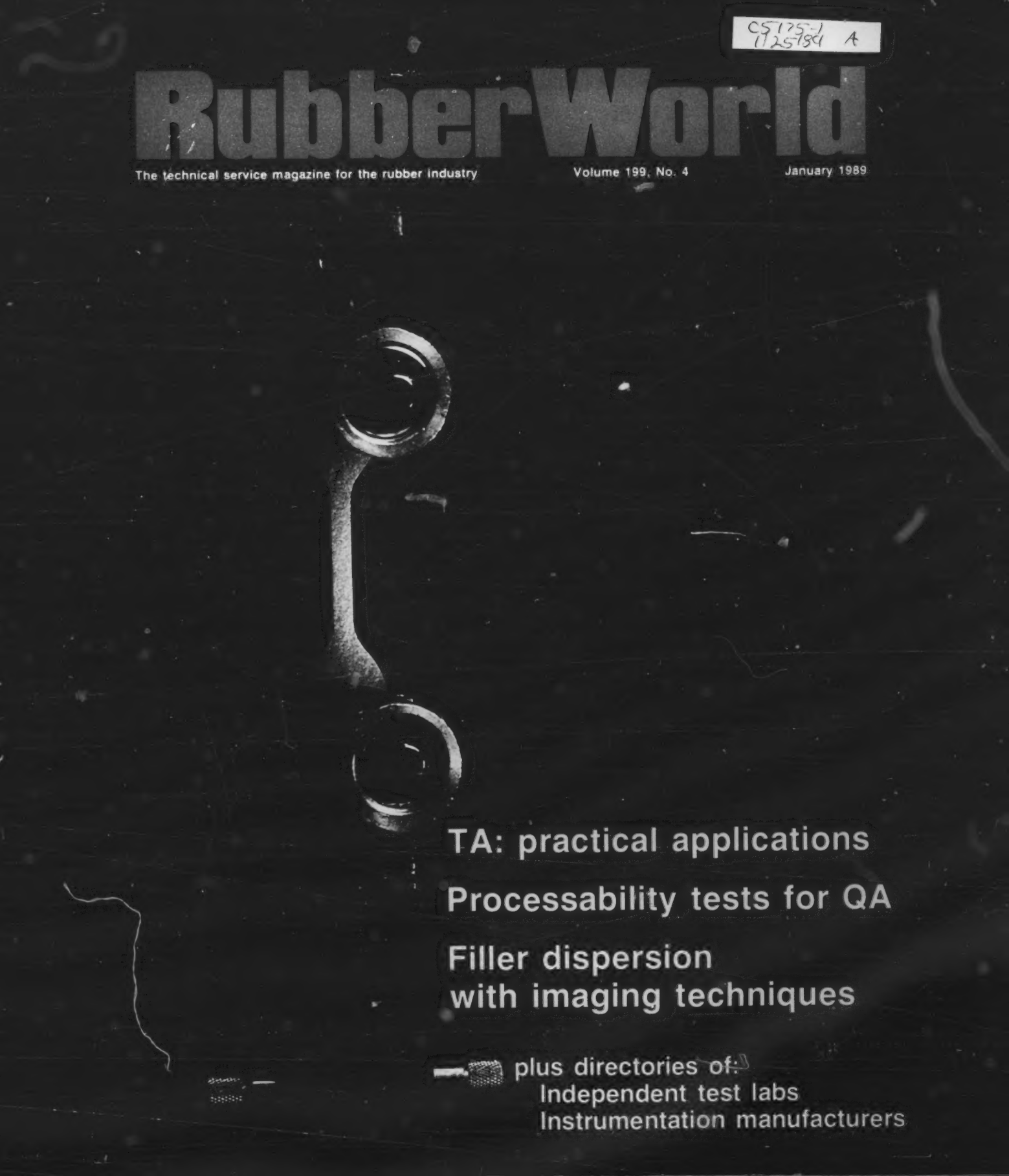

TA: practical applications

Processability tests for QA

Filler dispersion with imaging techniques

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Instrumentation manufacturers

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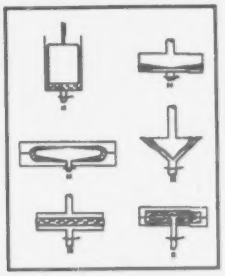

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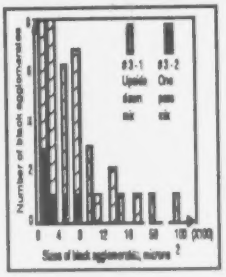

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Editorial

The evolution of quality in American business has been startling over the last two decades. What used to be deemed acceptable quality just 20 years ago will put you out of business in today's manufacturing climate. The incorporation of statistical process control techniques has led to the development of sophisticated instrumentation aimed at insuring process control prior to manufacturing. The position of quality inspector has all but vanished as has the practice of selling blemished products.

What all this has done is tighten up tolerances and minimized errors and defects. It has also reduced the percentage that is thought of as being an accepted quality level. Just two decades ago 5% was looked on as an acceptable level for errors or defects. Today, that figure is more like 1% or less and is still shrinking. In fact, QCI International, a quality improvement training firm says that 99.9% right isn't good enough.

Jeff Dewar, a researcher for QCI says, "As we enter the 1990s, 100% perfection, not accepted quality levels, will become the predominant philosophy." Here is what QCI says it would be like in the U.S. if things were done right 99.9% of the time. It would mean:

- one hour of unsafe drinking water per month
- two unsafe landings at O'Hare International Airport each day
- 16,000 lost pieces of mail per hour
- 20,000 incorrect drug prescriptions per year
- 500 incorrect surgical operations performed each week
- 50 newborn babies dropped at birth by doctors each day
- 22,000 checks deducted from the wrong accounts each hour
- 32,000 missed heartbeats per person each year.

The unsettling thing about these figures is that they represent a margin of error of only .001%. A figure that is deemed acceptable in many manufacturing operations.

It is inevitable that many buyers of rubber products, especially those in the automotive field, will be demanding 100% quality. In turn, the product manufacturers will be demanding the same from their suppliers. The machinery and instrumentation have evolved right along, pushing the quality number as close to 100% as possible. The real change that has to be made is in corporate philosophy. The tools are there.

Don R. Smith
Editor

RubberWorld

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Sales of analytical laboratory instruments to more than double by 1997

Technology advances in the U.S. analytical instruments industry such as the integration of semi-conductors, fiber optics, artificial intelligence and other information processing techniques are fueling market growth and broadening the applications for these devices, according to a report by New York-based research firm FIND/SVP.

Intelligent instruments are increasingly being used as an integral part of Laboratory Information Management Systems - networks which orchestrate the gathering, retaining, organizing and distributing of laboratory information. Additional technological developments in physics and engineering have the potential to improve both the technical performance and price structure of analytical instruments.

These devices used to investigate physical and chemical properties like mass, volume, density, electrical charge, resistivity, conductance and radioactivity, achieved sales of almost $3 billion in 1987, up an average of 8.3% a year from sales in 1982 of just under $2 billion. By 1997, sales are projected to reach $7.7 billion.

Presently, the market contains only a handful of manufacturers of any appreciable size, with no single competitor dominant in all segments and no evidence of an impending shakeout. The top 50% share of the market is divided among 11 competitors, with the top 60% controlled by 25 players.

Although no foreign competitor has yet made inroads in capturing significant market share, foreign suppliers have had some success entering the market through OEM agreements in the lower technology segments. However, the general trend toward more software-intensive instruments may further create barriers for offshore competition. The report notes that analytical instruments have generated trade surpluses (exports exceeding imports) since World War II and should continue to do so. Last year, the trade surplus stood at $677 million, having grown nearly 11% a year from 1982. It is expected to grow at 9% a year through 1997, when it will stand at $1.5 billion.

In terms of product categories, electrochemical instruments represent the most mature products in the industry. They generated sales of $205 million in 1987, or 7% of the total market. The segment is expected to grow 6.6% a year to $390 million by 1997.

Instrumentation for chromatography achieved sales of $424 million in 1987, or 14% of the total market. Newer applications such as liquid and super-critical fluid chromatography are expected to boost growth to 6.5% a year through 1997, with sales reaching $795 million.

Hyphenated instruments, the smallest yet fastest-growing segment in the analytical instruments market, offer speeds and conveniences that make them attractive to nearly all labs. The segment reached an estimated $148 million in 1987, growing almost 20% a year since 1982. A market totaling $515 million in sales is forecast by 1997.

Optical spectrometers, the second fastest-growing segment, generated 1987 sales estimated at $485 million. Future growth, particularly from Fourier transform infrared spectrometers and fluorescent spectrometers, should produce sales of over $1 billion in 1997.

Components and parts are starting to generate substantial sales as well - they reached $320 million last year and FIND/SVP projects growth of nearly 11% a year through 1997, when the segment will reach the $900 million level. Other instruments, such as thermal analysis equipment and clinical laboratory instruments, will round off the market, reaching sales of nearly $2.6 billion by 1997.

Imports, exports of instruments for physical or chemical analysis

	Imports	Exports
1986	274,315	936,682
1987	346,989	1,145,281
1987 (Jan-Jun)	152,276	533,965
1988 (Jan-Jun)	197,290	673,071
% change 87-88	30	26

Values - $1,000 source: USITC

RHEOMETER QUESTIONS?

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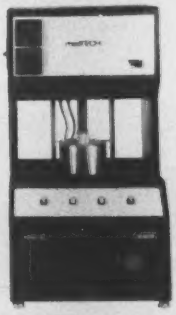

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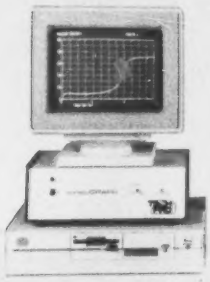

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